

REMARKS

This document is in response to the Office Action dated April 24, 2006.

Claims 1, 4/1, 5/1, 6/1, 8/1 and 9/1 have been rejected as being anticipated by Adelman. This rejection is respectively traversed. Claim 1 has been amended to clearly point out that the less lethal projectile is a separate structure from the cartridge case into which it is placed for firing. The Examiner states that Adelman discloses a less lethal projectile having a hollow body container with a closed front end at 26 and an open rear end at the rear of 30. However, 30 is not part of the less lethal projectile. 30 of Adelman is a conventional cartridge case for small firearms which is not attached to the projectile. The projectile 10 is folded over for insertion into the conventional cartridge case 30 and the two are not connected in any manner. Again the Examiner states that Adelman has a closure at the bottom of item 30 in Figure 5 to seal the open rear end of the hollow body container. However, again, the closure at the bottom of 30 is the base of the conventional cartridge case 30 and has no connection whatsoever to the projectile 10. Claim 1 has been amended to point out that the closure is located inside of the open end of the hollow body container, the container which holds the high-density filler.

Adelman's closure 30 does not fit in and is not located inside of the cover 25, it is part of the cartridge case, not the projectile.

Applicants on the other hand claim a less lethal projectile with a closed front end and open rear end, not shown in Adelman and a closure to seal the open rear end of the projectile, not the cartridge case. In addition, the Examiner states that Adelman discloses a bore-rider stabilizer at 25 attached to the rear of the closure. However, the stabilizer of Adelman is not at all attached to the rear of the projectile as is Applicants. Adelman states that the inner sealed container 15 is suitably attached to the outer load distributing cover 25 at 26, which is the front of the projectile, not the rear as in Applicant's projectile. Adelman goes on to say that the outer load distributing cover 25 is attached by a suitable cement to the frontal face of the inner sealed container 15, Col 3, line 65 through Col 4, line 10.

In fact, Adelman's outer load distributing cover 25 is really not a stabilizer at all but a method of reducing the unintentional injury to the victim by the outer load distributing cover 25, Col 4, lines 6 through 10 and Col 4, lines 11 through 20. Applicant's bore-rider stabilizer is attached to the rear of the projectile and has no function in terms of distributing the load on impact.

In addition, as shown in Adelman the material of outer load distributing cover 25 inside of cartridge 30 would burn in the bore

on the firing of the cartridge. As can be seen in Applicants' invention in Fig. 4 and 5, Applicants' rear end stabilizers are folded forward in the cartridge case so that they are not close to the firing mechanism of the cartridge into which they are placed. They unfold and fly behind the less lethal projectile body after the projectile is projected out of the cartridge case (30 of Adelman)) as they exit the bore of the firing weapon, acting as a stabilizer.

Referring to Claim 4/1 Adelman discloses the inner seal container 15 is made of flexible elastic material such as rubber, latex, film, etc., and referring to Claim 5/1 Adelman discloses the high density filler to be a mixture of pellets and a liquid or pellets and a gel. In addition, Adelman discloses that the metallic elements could be leadshot copper shot, tungsten powder or the like.

Referring to Claim 6/1 Adelman discloses a high density filler in a rupturable sealed container. And referring to Claim 8/1 Adelman shows in Figs. 6 and 7 an outer load distributing cover with spaced, rearwardly projecting elongated sections. However, the outer load distributing cover is still attached to the front of the projectile 15 at 26 and is not attached to the rear of the projectile in any manner. Applicants' bore-rider stabilizer attached to the rear of the projectile provides far more stability

in flight to the projectile, as shown in the test firing results set forth in the specification. In addition, in Claim 1 Applicants state that the bore-rider stabilizer comprises fabric or film having a low coefficient of friction. This is important because when the stabilizer is folded forward as shown in Fig. 4, and is placed in a cartridge, it protects the projectile and provides a smoother exit from the bore of the firing weapon, due to the reduced coefficient of friction.

Referring to Claim 9/1 Adelman discloses that his outer load distributing cover may be manufactured from nylon, dacron, kevlar spectra, silk or any other flexible fabric which will not permit the impact or shot load to penetrate through it upon impact with the target, Column 3, lines 55-59. Applicants have no such requirement for their bore-rider stabilizer since it is not attached to the front of the projectile and has no function of preventing the penetration of the shot load.

The Examiner has rejected Claims 2, 4/2, 5/2, 6/2, 8/2, 9/2 and 12/2 as being unpatentable over Kerr in view of Adelman. This rejection is respectfully traversed. Claim 2 has also been amended to clearly point out that the less lethal projectile is a separate structure from the cartridge case into which it is placed for firing. Kerr discloses a typical bean bag projectile, tied off above the shot load, as shown in Fig. 5. An extra length of the cloth 24

is left behind the place where the projectile is tied off by a cord, such as 34-1 or 34-2. The "flowing structure" 24, which trails the filled portion of compartment 22 has a "peripheral, inwardly turned curl or roll 25, which aids in providing accuracy in the flight of the bean bag (Col 4, lines 56-67). Kerr's device is simply a long bean bag, tied off somewhere in the middle, with a filled portion in front and an empty portion behind.

Applicants, on the other hand, in Claim 2, have a spool closure which fits inside of the open end of the fabric container and a sealer which fits tightly around the spool closure to seal the filler in the container. A separate bore-rider and stabilizer, not part of the fabric of the projectile, is attached to the rear of the closure. The bore-rider stabilizer is comprised of fabric or film, having a surface with a low coefficient of friction for the purpose explained with respect to Claim 1. The Examiner refers to Adeleman having a binder 20 attached into the bore hole of spool 30. In fact, Adelman's 20 is his "shot charge" located inside of his sealed container 15, see Col. 3, lines 21-24 of Adelman. Thus, 20 of Adelman is not a binder and is not attached into 30 in any manner, 30 not being any part of the projectile.

Kerr as modified by Adelman may disclose a body of woven fabric 4/2 and disclose the high density filler 5/2 that may be held in a frangible pouch 6/2, but as stated above, neither Kerr

nor Adelman disclose a bore-rider stabilizer attached to the rear of a projectile which is not a part of the body of the projectile 8/2.

Referring to Claim 9/2 Adelman describes his outer load distributing cover as being possibly made from nylon, Dacron, Kevlar, spectra or silk, the main quality being that the material will not permit the impact or shot load to penetrate through it upon impact with a target. Applicants' material is for a totally different purpose and is attached to the rear of the projectile rather than the front. In addition, Applicants' bore-rider stabilizer has the positive effect of aiding in the passage of the projectile in the bore of the weapon from which it is fired, which is the reason why it is described as having a low coefficient of friction.

Referring to Claim 12/2 Kerr prefers Kevlar as the preferred fabric constructed material.

Claims 3, 4/3, 5/3, 6/3, 8/3, 9/3 and 12/3 have been rejected as being unpatentable over Brunn, et al., in view of Adelman. This rejection is respectfully traversed. Applicant has amended Claim 3 to show that the cartridge case is separate from the projectile. Brunn discloses a bean bag type projectile very similar to Kerr, in which the front portion containing the shot load is tied off, see 44 and an excess of material 48 trails behind the tied off portion.

Brunn stuffs the excess material 48 into the cartridge to be fired, indicating that the lead filled projectile front portion is worked fully into the cartridge compartment 54 aided by rotational twists of the projectile front end 34 in addition to the longitudinally directed force 86, Co. 3, lines 27-35.

The Examiner indicates that Brunn et al discloses a spool at 50, however, 50 is a 12 gage shotgun shell inside of which is placed the projectile for firing, the shotgun shell 50 (the cartridge case) is not connected in any manner to the projectile nor does it form any part of the projectile. It is simply the chamber from which the projectile is fired, in order to project the projectile toward the target. In addition, item 44 of Brunn is a tie which ties off the bean bag containing portion of his projectile and there is no mention of 44 being an adhesive. Adelman has been discussed at length above. With respect to Claims 4/3, 5/3, 6/3, 8/3, 9/3 and 12/3 these items have been discussed at length above with respect to Adelman. Brunn, et al., is basically no different than Kerr.

With respect to Claim 12/1 Adelman and Brunn have been discussed above. Brunn does disclose a sock like body of fabric construction Col 2, line 50. However, it does not describe the fabric as having a loose mix of elastic weave, which allows radial expansion in two directions upon impact.

Claim 7/1 has been rejected as being unpatentable over Adelman in further view of Mangolds. Adelman has been discussed in detail above. Mangolds describes a system for ballistically deploying a restraining net system. The Examiner states that Mangolds, et al., discloses a closure being a round drum shape body having a hole in the center and circumferential groove at 26, 36 and 54. However, the area described by the Examiner at 26, 36 and 54 is not part of a less lethal projectile. 36 is a deployment charge and 38 is a spreader charge containing a delay fuse 54, Col 5, lines 40-46. Charge 36 is to deploy the net system out of the cartridge and spreader charge 38 is to spread the net after its deployment. Neither form part of a less lethal projectile as described by Applicants.

Claim 7/2 has been rejected as unpatentable over Kerr as modified by Adelman and in further view of Mangolds, et al. Kerr, Adelman and Mangolds have all been discussed above. None of them describe the less lethal projectile claimed by Applicants.

Claim 7/3 has been rejected as unpatentable over Brunn, et al., as modified by Adelman and in further view of Mangolds. Adelman and Brunn have been discussed at length above. Again Mangolds does not describe a less lethal projectile in which the rear end of the fabric body of the projectile passes through a hole in a spool.

Claim 10/1 was rejected as being unpatentable over Adelman in further view of Mangolds, et al. The Examiner states that Mangolds, et al., describes a bore-rider stabilizer comprising two layers. However, that is not the case. Item 34, cited by the Examiner, is the net which is packaged within a card board or shrinkable plastic housing 76. Neither of these items is a bore-rider stabilizer, which as claimed by Applicants, is attached to the rear of the projectile in which the bore-rider stabilizer comprises two layers, a first film layer in contact with the projectile body when folded and a second layer having a low coefficient of friction or a single layer combining both functions of stiffness and a low coefficient of friction.

Claim 10/3 has been rejected as unpatentable over Brunn, et al., as modified by Adelman in further view of Mangolds, et al. Brunn, et al., Adelman and Mangolds have all been discussed above.

Claim 11/1 has been rejected as unpatentable over Adelman in further view of Mangolds, et al. Adelman and Mangolds have been discussed at length above. Neither shows the specific combination of materials described and claimed by Applicants in Claim 11. Applicant points out specifically on page 8 of the specification that the specific materials claimed and described have sufficient stiffness at the attachment point to transmit stabilizing forces to reflect small corrections in the trajectory of Applicants'

projectile. In addition the slick surface of the bore-rider stabilizer, which is placed on the outside surface when the tail stabilizer is folded back over the projectile in the cartridge, aids the projectile's ejection from the weapon from which it is fired. Neither Adelman, Kerr nor Mangolds suggest this use and benefit of Applicants' invention. It is not, as stated by Examiner, a characteristic found through experimentation since no prior reference has even suggested a problem or a method for using a bore-rider stabilizer to protect and aid the projectile in its release when being fired from a weapon.

In conclusion, none of the references cited Adelman, Kerr, or Mangolds, either separately or in combination suggests a separate bore-rider stabilizer attached to the rear of a projectile, the projectile being a separate piece of equipment from the cartridge case, which comprises a fabric or film having a low coefficient of friction, the bore-rider stabilizer not being a part of the fabric container for the shot charge.

In view of the amendments to the claims and the arguments presented herein, Applicant urges that the claims are now in condition for allowance and early allowance is respectfully requested.

Conclusion

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Sanford Astor (Reg. No. 20,748) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

Respectfully submitted,

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By


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